

REMARKS/ARGUMENTS

Claim 1 has been amended by incorporating subject matter from claim 5 into it.

Claim 5 has been canceled.

Claims 1-3, 6-15 and 17-31 are currently pending, although claims 14-18 have been withdrawn. Upon indication of allowable subject matter, Applicants currently intend to seek rejoinder of at least one of the withdrawn claims as appropriate.

The Office Action issued several rejections under 35 U.S.C § 103 including that at least some of the claims are obvious over Keefer in view of Froberg and Sorg, further in view of Kunkle, Coffeen, and/or Ritze. However, none of these rejections encompassed claim 5. Accordingly, Applicants respectfully submit that the above amendment to claim 1 has rendered these rejections moot, and that these rejections should be reconsidered and withdrawn.

The Office Action (at page 7) issued one other rejection, that of claims 5, 6, 22 and 23 under 35 U.S.C § 103 as obvious over U.S patent 3,170,781 (“Keefer”) in view of U.S. patent 4,358,304 (“Froberg”) and U.S. patent 5,630,860 (“Sorg”) further in view of U.S. patent 4,106,946 (“Ritze”). In view of the following comments, Applicants respectfully request reconsideration and withdrawal of this rejection.

In making this rejection, the Office Action recognized that Keefer in view of Froberg does not disclose a temperature difference among the tanks of at least 80°C . To compensate for this fatal deficiency, the Office Action asserted that Sorg and Ritze would have motivated one of ordinary skill in the art to modify Keefer in view of Froberg to yield the invention processes (and to have a temperature differential of at least 80°C ). However, this assertion misses the point.

Sorg discloses a unit having an elevated cooling zone. The cooling zone is a separate zone located between the tank and the refining zone, elevated and without heating elements, specifically designed to allow for cooling of the glass material to occur. Moreover, Sorg's input of materials occurs through a side feeder element of the tank. (See, Fig. 1). The flow of the material is dictated by this specific structure.

In stark contrast, Keefer's unit does not have such an elevated cooling zone and, in fact, calls for burners in both the tank and the refining zone. Moreover, Keefer's input of materials occurs through a top feeder element of the tank. Thus, the flow of the material is completely different from that of Sorg as dictated by the completely different structure.

Given the stark differences between Keefer's and Sorg's units, no motivation would have existed to combine the teachings of these two references to yield the claimed invention. Nothing would have motivated one of ordinary skill in the art to modify Keefer's unit to add an elevated cooling zone and to change the flow of material by changing the nature of the material input.

Ritze cannot compensate for the above-noted deficiencies. Nothing in Ritze would change the lack of combinability discussed above, nor would Ritze lead one of ordinary skill in the art to use the required burners in the required tanks at the required temperature differential.

The applied art does not teach or suggest introducing most of the silica into a tank containing a submerged burner, forming a melt in a tank containing a submerged burner, and/or having a first tank containing such a submerged burner being heated to a higher temperature than the other tanks in the furnace. None of the applied references, alone or in combination, would lead one of ordinary skill in the art to the invention processes.

In view of the above, Applicants respectfully request reconsideration and withdrawal of all of the rejections under 35 U.S.C §103.

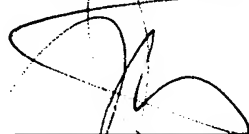
Application No. 10/522,723  
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Applicants believe that the present application is in condition for allowance. Prompt and favorable consideration is earnestly solicited.

Respectfully submitted,

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